

WHAT IS CLAIMED IS:

1. A user interface device, comprising:

a display screen for displaying an image;

5 display control means for controlling so as to display an image on the display screen;

an operation member for being operated by a user; and

operation member drive control means for driving the operation member at least in a one-dimensional direction,

10 wherein

the operation member is mounted within, in the vicinity of, or partly overlapping a display region of the display screen.

15 2. The user interface device according to claim 1, wherein the operation member drive control means drives the operation member according to an operation pattern which corresponds to the image displayed on the display screen.

20 3. The user interface device according to claim 1, wherein the operation member drive control means conveys a variety of reactive forces to the user operating the operation member, depending on the image displayed on the display screen.

25 4. The user interface device according to claim 1, further comprises:

position detection means for detecting a position of the operation member within the display screen,



wherein

the operation member drive control means changes an operation pattern for the operation member according to the position of the operation member, which is detected by the  
5 position detection means.

5. The user interface device according to claim 4, wherein the display control means changes an image to be displayed on the display screen according to the position of the operation  
10 member relative to the image displayed on the display screen.

6. The user interface device according to claim 5, wherein the display control means switches images to be displayed on the display screen in response to an input confirmation.  
15 operation performed by the user following the image displayed on the display screen.

7. The user interface device according to claim 6, wherein the operation member has an input confirmation mechanism.  
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8. The user interface device according to claim 1, wherein the display control means controls so as to display a selection item selected by the user using the operation member from among a plurality of selection items displayed on the  
25 display screen, in a manner different from a manner of displaying other selection items.

9. The user interface device according to claim 1, wherein



the operation member drive control means drives the operation member in a non-display mode when no image is displayed on the display screen.

5 10. The user interface device according to claim 1, wherein the operation member is provided within the display screen and connected through an opening formed on the display screen to the operation member drive control means provided below the display screen.

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11. The user interface device according to claim 1, wherein the operation member and the operation member drive control means are provided on the display screen.

15 12. The user interface device according to claim 1, wherein the display screen additionally functions as the operation member.

13. The user interface device according to claim 1, wherein  
20 the operation member drive control means drives the operation member with at least two degrees of freedom.

14. The user interface device according to claim 13, wherein the operation member drive control means drives the operation  
25 member with freedom along a plane in a two-dimensional direction which is substantially parallel to the display screen serving as a reference plane.



15. The user interface device according to claim 1, wherein the operation member drive control means drives the operation member with freedom for

rotation around an axis in a first direction  
5 substantially parallel to the display screen serving as a reference plane,

rotation around an axis in a second direction substantially parallel to the reference plane and vertical to the first direction,

10 rotation around an axis in a third direction substantially vertical to the reference plane, or

rotation that is a combination of at least two types of rotation described above.

15 16. The user interface device according to claim 1, wherein the screen display means has a touch panel input mechanism.

17. The user interface device according to claim 1, further comprises:

20 detection means for detecting an amount of operation of the operation means,

wherein

the operation member drive control means changes an operation pattern for the operation member according to the  
25 amount of operation detected by the detection means.